

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus for adapting an audio signal ~~for single source multi-use~~, comprising:

an audio usage environment information management means for collecting, describing and managing audio usage environment information ~~from each user terminal that consumes-related to consuming~~ the audio signal; and

an audio adaptation means for adapting the audio signal ~~so that the audio signal is outputted to the user terminal suitably to the audio usage environment information,~~ wherein the audio usage environment information includes user characteristics information that describes sound field preference of the user for the audio signal, and wherein the audio adaptation means performs a convolution of an audio content of the audio signal with an impulse response characterized by the sound field preference of the user.

2. (Currently Amended) The apparatus as recited in claim 1, wherein the user characteristics information includes impulse response preference ~~for for the- information describing the sound field preference of the user by the impulse response,~~ and the audio adaptation means adapts the audio signal, and transmits the adapted audio signal to the user terminal by changing the sound field characteristics of the audio signal based on the ~~preference for the impulse response~~ impulse response preference information.

3. (Currently Amended) The apparatus as recited in claim 2, wherein the impulse response ~~is described with time and amplitude~~ preference information includes sampling frequency preference information, bits per sample preference information, number of channel preference information of the impulse response or URI address information for identifying the impulse response.

4. (Currently Amended) The apparatus as recited in claim 1, wherein the user characteristics information includes ~~preference for perceptual parameters~~ preference information describing the sound field preference of the audio signal user by perceptual

parameters, and the audio adaptation means adapts the audio signal and transmits the adapted audio signal to the user terminal by changing the sound field characteristics of the audio signal based on the ~~preference for the perceptual parameters~~ preference information.

5. (Currently Amended) The apparatus as recited in ~~claim 1~~ claim 4, wherein the user characteristics- perceptual parameters preference information includes sound environment information describing direct sound, energy of early room effect, and relative early energy at a space where the user consumes the audio signal, and the audio adaptation means adapts the audio signal and transmits the adapted audio signal to the user terminal by removing adverse effects caused by the sound environment of the user among the sound field characteristics of the audio signal based on the sound environment information low and high frequency.

6. (Currently Amended) The apparatus as recited in ~~claim 5~~ claim 4, wherein the sound environment- perceptual parameters preference information includes ~~reverberation time information~~ energy of the space later room effect and relative early decay time.

7. (Currently Amended) The apparatus as recited in ~~claim 5~~ claim 4, wherein the sound environment perceptual parameters preference information includes ~~initial decay time of the space~~ energy of early room effect related to the direct sound and late decay time.

8. (Currently Amended) The apparatus as recited in ~~claim 5~~ claim 4, wherein the sound environment- perceptual parameters preference information includes energy ratio information between direct sound of the space and reflected sound after a predetermined time relative decay time at a low and high frequency and a reference distance that defines the perceptual parameters.

9. (Currently Amended) The apparatus as recited in ~~claim 5~~ claim 4, wherein the sound environment information is a physical quantity that indicates the sense of sound spread and the sound environment- perceptual parameters preference information includes

~~similarity information of sound that arrives at each ear of the user~~ limitation of a low and high frequency and time limitation.

10. (Currently Amended) A method for adapting an audio signal ~~for single source multi-use~~, comprising the steps of:

a) ~~collecting, describing and managing audio usage environment information from each user terminal that consumes-~~ related to consuming the audio signal; and

b) ~~adapting the audio signal so that the audio signal is outputted to the user terminal suitably to the audio usage environment information,~~

wherein the audio usage environment information includes user characteristics information that describes sound field preference of the user for the audio signal, and

wherein adapting the audio signal further comprises:
performing a convolution of the audio signal with an impulse response
characterized by the sound field preference of the user.

11. (Currently Amended) The method as recited in claim 10, wherein the user characteristics information includes impulse response preference information describing the sound field preference of the user by the impulse response and, at the step b), the audio signal is adapted and transmitted to the user terminal by changing the sound field characteristics of the audio signal based on the ~~preference for the impulse response~~ impulse response preference information.

12. (Currently Amended) The method as recited in claim 11, wherein the impulse response is ~~described with time and amplitude~~ preference information includes sampling frequency preference information, bits per sample preference information, number of channel preference information of the impulse response or URI address information for identifying the impulse response.

13. (Currently Amended) The method as recited in claim 10, wherein the user characteristics information includes ~~preference for perceptual parameters~~ preference information describing the sound field preference of the audio signal- user by perceptual

parameters and, at the step b), the audio signal is adapted and transmitted to the user terminal by changing the sound field characteristics of the audio signal based on the preference for the perceptual parameters preference information.

14. (Currently Amended) The method as recited in ~~claim 10~~claim 13, wherein the user ~~characteristics~~ perceptual parameters preference information includes ~~sound environment information describing direct sound, energy of early room effect, and relative early energy at a low and high frequency of a space where the user consumes the audio signal~~ and, at the step b), the audio signal is adapted and transmitted to the user terminal by ~~removing adverse effects caused by the sound environment of the user among the sound field characteristics of the audio signal based on the sound environment information~~.

15. (Currently Amended) The method as recited in ~~claim 14~~claim 13, wherein the sound ~~environment~~ perceptual parameters preference information includes ~~reverberation time information of the space~~energy of later room effect and relative early decay time.

16. (Currently Amended) The method as recited in ~~claim 14~~claim 13, wherein the sound ~~environment~~ perceptual parameters preference information includes ~~initial decay time of the space~~ energy of early room effect related to the direct sound and late decay time.

17. (Currently Amended) The method as recited in ~~claim 14~~claim 13, wherein ~~the sound environment information includes energy ratio information between direct sound of the space and reflected sound after a predetermined time~~ the perceptual parameters preference information includes relative decay time at a low and high frequency and a reference distance that defines the perceptual parameters.

18. (Currently Amended) The method as recited in ~~claim 14~~claim 13, wherein the sound ~~environment information is a physical quantity that indicates the sense of sound spread,~~ and the sound environment perceptual parameters preference information includes ~~similarity information of sound that arrives at each ear of the user~~ limitation of a low and high frequency and time limitation.